AD-A037 930 AIR FORCE ACADEMY COLO F/G 5/11
CRIME IN EL PASO COUNTY COLORADO: A SPATIAL PERSPECTIVE.(U)
FEB 77 A P TRIBBLE, C L SMITH
UNCLASSIFIED USAFA-TR-77-2 NL

1 OF 1
AD A037930

END
DATE FILMED
5-77

USAFA-TR-77-2

CRIME IN EL PASO COUNTY COLORADO: A SPATIAL PERSPECTIVE

MAJOR A. PAUL TRIBBLE
MAJOR CHARLES L. SMITH

DEPT OF ECONOMICS, GEOGRAPHY AND MANAGEMENT
USAF ACADEMY, COLORADO 80840

FEBRUARY 1977

FINAL REPORT

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

DEAN OF THE FACULTY
UNITED STATES AIR FORCE ACADEMY
COLORADO 80840

Editorial Review by Lt Col Elser
Department of English and Fine Arts
USAF Academy, Colorado 80840

This research report is presented as a competent treatment of the subject, worthy of publication. The United States Air Force Academy vouches for the quality of the research, without necessarily endorsing the opinions and conclusions of the author.

This report has been cleared for open publication and/or public release by the appropriate Office of Information in accordance with AFR 190-17 and DODD 5230.9. There is no objection to unlimited distribution of this report to the public at large, or by DDC to the National Technical Information Service.

This research report has been reviewed and is approved for publication.

Philip J. Erdle

PHILIP J. ERDLE, Colonel, USAF
Vice Dean of the Faculty

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

ORIGINAL CONTAINS COLOR PLATES: ALL DDC REPRODUCTIONS WILL BE IN BLACK AND WHITE

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER: USAFA-TR-77-2	2. GOVT ACCESSION NO. / 3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle): CRIME IN EL PASO COUNTY COLORADO: A SPATIAL PERSPECTIVE.	5. TYPE OF REPORT & PERIOD COVERED: FINAL REPORT. / 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): Major A. Paul Tribble and Major Charles L. Smith	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Department of Economics, Geography and Management, United States Air Force Academy, Colorado 80840	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: DFEGM, USAF Academy, Colorado 80840	12. REPORT DATE: February 1977 / 13. NUMBER OF PAGES: 31
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15. SECURITY CLASS. (of this report): Unclassified / 15a. DECLASSIFICATION DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report): Approved for Public Release; Distribution Unlimited	
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)	
18. SUPPLEMENTARY NOTES	
19. KEY WORDS (Continue on reverse side if necessary and identify by block number): Crime; El Paso County, Colorado; spatial separation; robbery; assault; vehicle theft; burglary; larceny; sex offenses; causal factors.	
20. ABSTRACT (Continue on reverse side if necessary and identify by block number): Analyzes the spatial separation of the residences of criminals and locations of crimes for six crime categories. Data pertain to El Paso County, Colorado, (exclusive of Colorado Springs) for 1975. Examines social, economic, demographic and distance variables in a multiple regression model in an effort to isolate causes of El Paso County crime.	

DDC APR 8 1977 RECEIVED C

011 550

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF TABLES

CHAPTER I

INTRODUCTION

> Many communities do not have precise knowledge of criminal justice information in such a manner as to enable them to adequately plan for comprehensive criminal justice programs. While most communities have considerable information pertaining to the incidence of crimes, few have analyzed these data locationally, particularly in relation to specific neighborhood characteristics. . .[1]

The problem identified in the above quotation sets the stage for the analysis that follows. This paper examines crime data for El Paso County, Colorado, for 1975, from a locational viewpoint. Data were used pertaining to all crimes committed in the county in 1975 (exclusive of the Colorado Springs corporate city) for which police files existed.

Graphic displays depict the locations of crimes and the residences of criminals, and a determination is made for the average distance separation of crime and criminal for various types of crimes. Additionally, regression analyses suggest factors probably responsible for crime in various areas of the county.

Throughout the paper, references are made to crime groups by name of the group presented below. In each case the reference refers to all crimes in that category; that is, a reference to robbery includes offenses 1-6. Offense numbers refer to those assigned in

---

[1] Gerald F. Pyle, et al., The Spatial Dynamics of Crime, Department of Geography Resource Paper No. 159, (Chicago: University of Chicago, 1974), p. 1.

Table 1. The groups are: robbery (offense types 1-6); assault (offense types 7-9); vehicle theft (offense type 10); burglary (offense types 11-14); larceny (offense types 15-18); and sex crimes (offense types 19-22).

TABLE 1

TOTAL OFFENSES BY TYPE OF CRIME

Offense Number	Type	Number of Offenses
1	Armed Robbery	14
2	Attempted Robbery	3
3	Aggravated Robbery	78
4	Attempted Aggravated Robbery	6
5	Commercial Robbery	6
6	Personal Robbery	19
7	Assault	119
8	Attempted Assault	0
9	Menacing	40
10	Auto Theft	225
11	Attempted Commercial Burglary	6
12	Attempted Household Burglary	12
13	Commercial Burglary	226
14	Household Burglary	1170
15	Larceny-Theft	859
16	Arson	11
17	Check Fraud	25
18	Criminal Mischief	287
19	Rape	41
20	Attempted Rape	0
21	Sexual Assault and Child Abuse	21
22	Incest	2
	TOTAL	3170

All the data referenced in this report are arrest data. In many cases, the suspect may not have been convicted. The word criminal as used throughout the report should, therefore, be understood to refer to alleged criminal.

Any reference to the number of crimes, number of criminals, number of victims, etc., without a reference to a place refers to that number as it pertains to El Paso County, Colorado, for 1975.

The authors calculated crime rates for each census tract of El Paso County (exclusive of the Colorado Springs corporate city) based on people per crime for all crimes combined. Phillips addressed a variety of other procedures for calculating crime rates.[2] Slightly differing rates would emerge if, for example, the crime rate for household burglaries were a function of housing units per burglary. Since the number of people in an area is a good surrogate for the number of houses, number of automobiles, etc., and since this paper is attempting to examine the distribution of all types of crime in the county, the authors determined the people per crime rate to be the most applicable. Table 2 presents the number of crimes, the population, and the people per crime for El Paso County census tracts for 1975. Figure 1 depicts the location of the ten high crime census tracts.

Fort Carson (tract 44.00) is excluded from Table 2, as much of its crime reporting was handled internally by the military police, and is not reflected in police records.

---

[2]Phillip D. Phillips, "Risk-Related Crime Rates and Crime Patterns," Proceedings of the Association of American Geographers, Vol. 5, 1973, pp. 221-222.

TABLE 2

PEOPLE PER CRIME

Tract Number	Crime	Population	People Per Crime
1.00	6	51	8.5
2.00	37	225	6.1
3.01	1	2590	2590.0
3.02	0	1722	1722.0*
4.00	1	14	14.0
11.01	3	315	105.0
11.02	7	166	23.7
13.01	3	129	43.0
13.02	4	246	61.5
14.00	3	58	19.3
24.00	27	558	20.7
25.00	154	5248	34.1
28.00	65	977	15.0
29.00	284	5804	20.4
30.00	170	4745	27.9
31.00	73	1329	18.2
32.00	64	1087	17.0
33.01	23	610	26.5
33.02	129	1797	13.9
34.00	45	1943	43.2
35.00	124	2854	23.0
36.00	68	1424	20.9
37.01	21	1654	78.8
37.02	8	803	100.4
38.00	13	7554	581.1
39.01	0	1580	1580.0*
39.02	162	6331	39.1
40.01	131	1500	11.5
40.02	74	614	8.3
40.03	55	211	3.8
40.04	10	5	.5
41.00	231	5827	25.2
42.00	121	2832	23.4
43.00	400	3712	9.3
45.01	176	4119	23.4
45.02	124	5111	41.2
45.03	28	4530	161.8
46.00	4	1238	309.5
TOTALS	2,849**	81,513	

*For the purpose of calculating a people per crime value for these tracts, it was necessary to assume that one crime had occurred in each.

**The total number of crimes in Table 2 does not equal 3170. Many crimes were incorrectly listed in police records as having occurred in non-existing census tracts. These could not, therefore, be included in the crime count for any county tract.

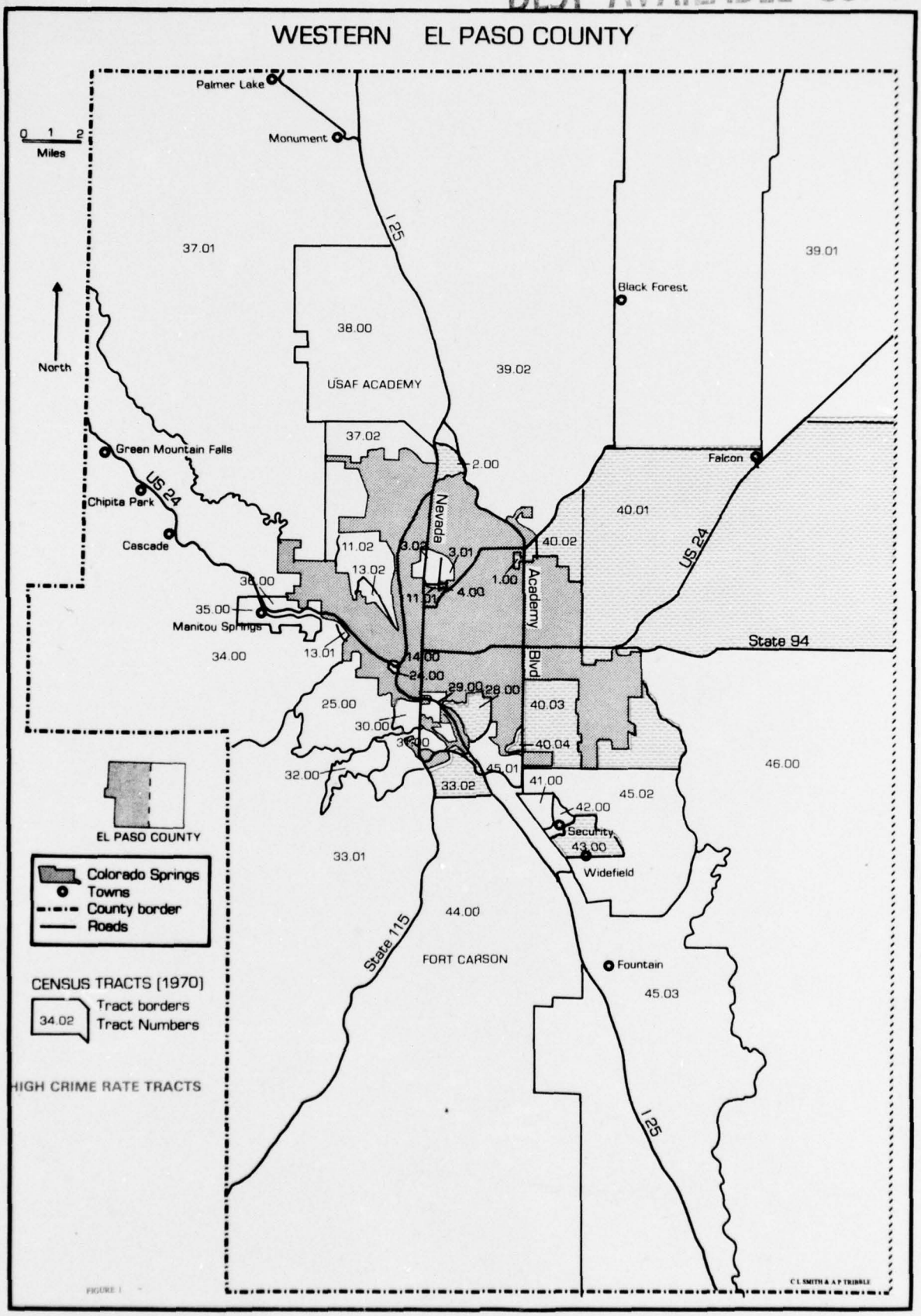


FIGURE 1

CHAPTER II

THE LOCATION OF CRIMES AND THE RESIDENCES OF CRIMINALS IN EL PASO COUNTY, COLORADO, 1975

Lee and other researchers noted that a distance decay function[3] characterizes the separation of crimes and the residences of criminals. This separation may vary between different types of crimes.[4] El Paso County data corroborate his suggestions.

The plottings on the maps and the average distance separation values are based on a large sample of criminals apprehended for each crime group (Table 3).[5]

Robbery

The spatial separation of robberies and the residences of criminals averaged 6.15 miles. A predominance of robberies exists in the county areas south of Colorado Springs (Figure 2), possibly because of the location of the Fort Carson military post in that area.[6] Five of the criminals (one-third of those plotted) were in the Army. Three soldiers resided on the military post and the other two lived in the civilian community.

---

[3] As distance increases, the quantity of the variable measured decreases.

[4] Yuk Lee, Yee Leung and Lionel Lyles, "Two Conceptual Approaches and an Empirical Analysis of the Origin Node of Violent Crimes," Proceedings of the Association of American Geographers, Vol. 6, 1974, p. 158.

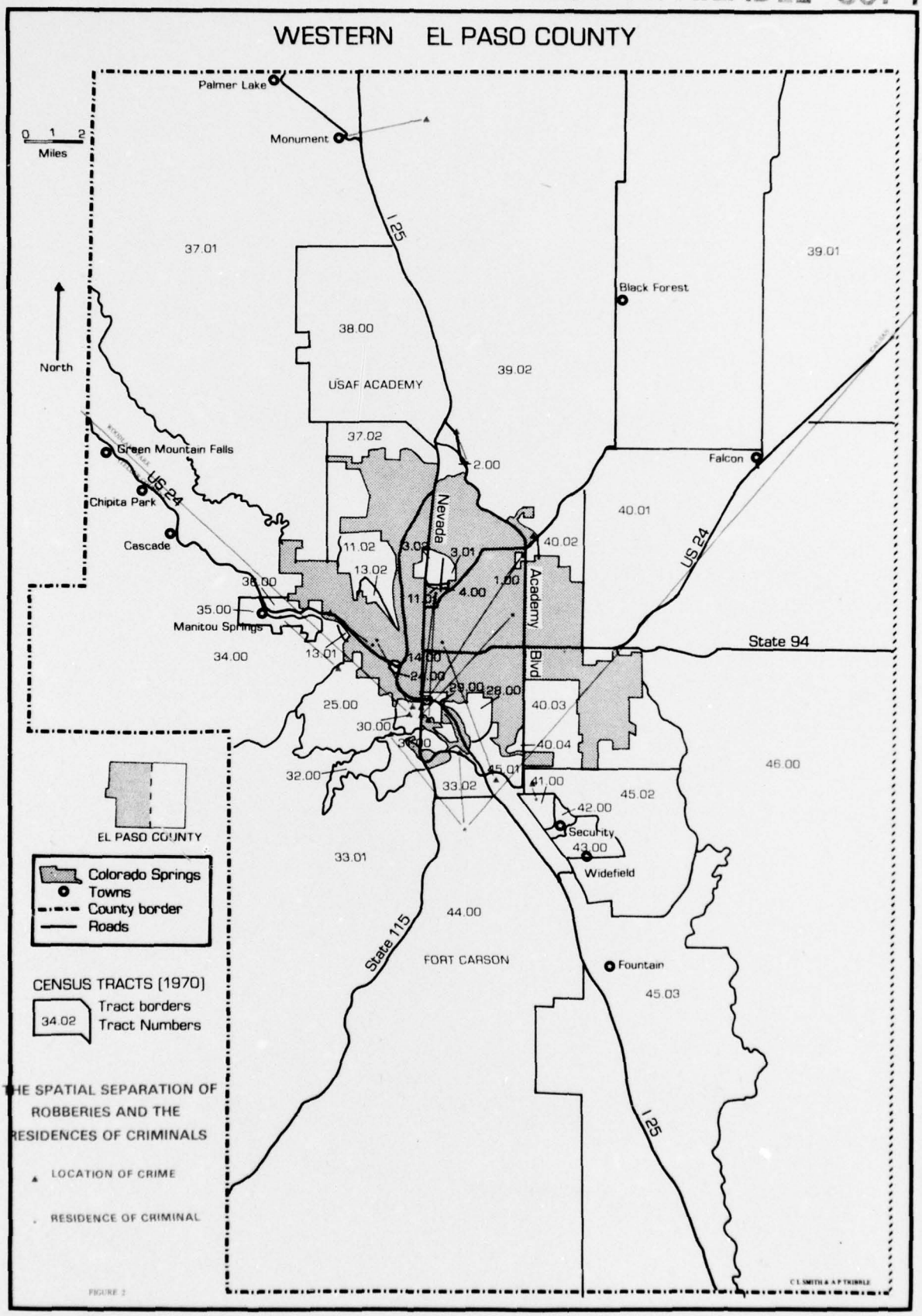
[5] All distance measurements refer to straight line distances. Crimes are plotted only if the criminal was apprehended, and only if his or her residence was in El Paso County, Colorado, including Colorado Springs.

[6] Fort Carson soldiers constituted twenty-four percent of El Paso County criminal apprehensions in 1975.

TABLE 3

EL PASO COUNTY CRIME STATISTICS FOR 1975

Crime Group	Total Crimes	Total Apprehensions	% of Criminals Apprehended	Total Crimes Plotted	% Plotted of Those Apprehended
Robbery	126	44	35	15	34
Assault	159	65	41	37	57
Vehicle Theft	225	43	19	12	28
Burglary	1414	169	12	104	62
Larceny	1182	123	10	72	59
Sex Crimes	64	28	44	14	50
Totals	3170	472	15	254	52



Assault

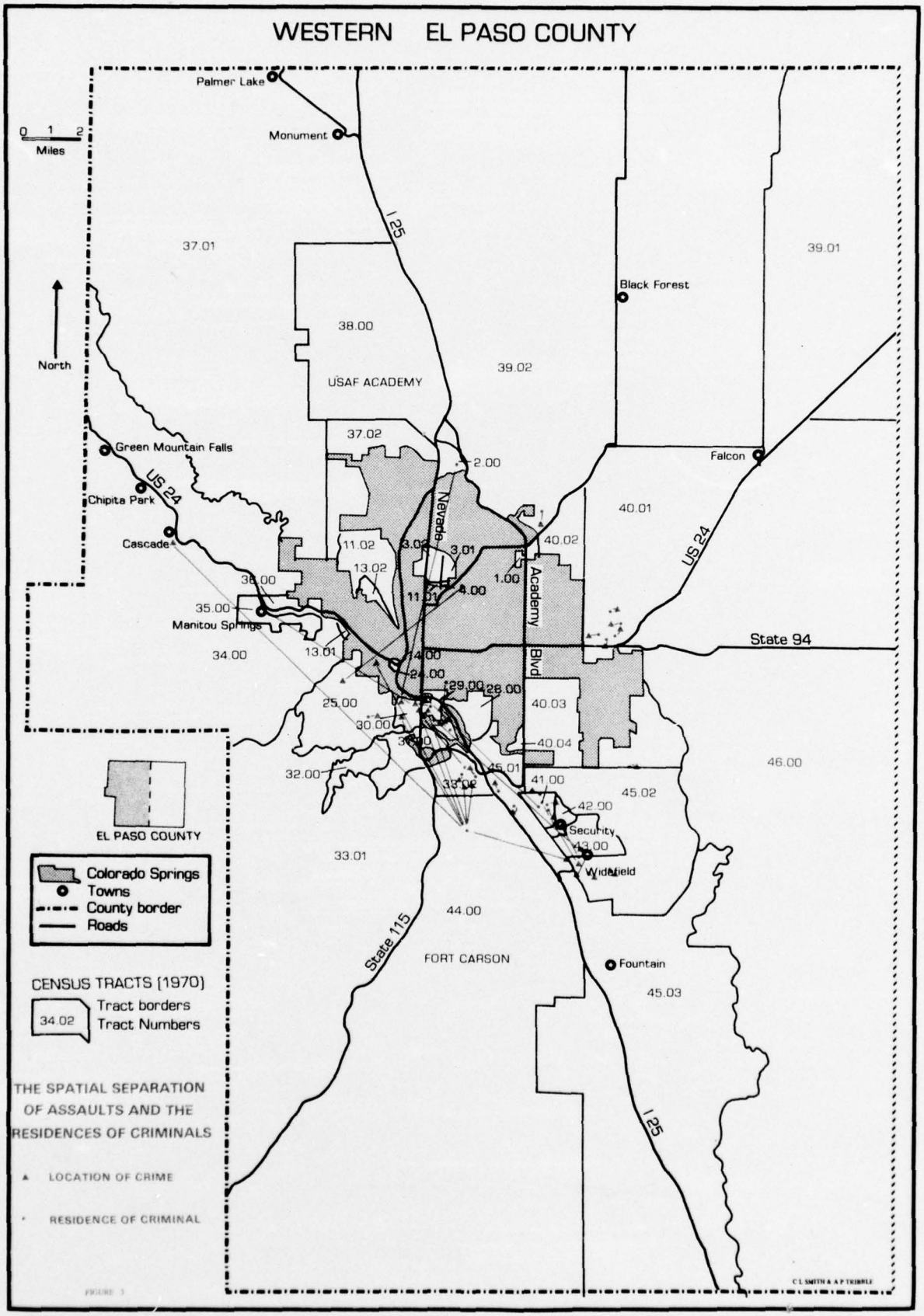
Assaults, like robberies, were dominantly located in the tracts just to the south of Colorado Springs (Figure 3). As with robberies, a large number of the occurrences were in the heavily commercialized south Nevada Avenue area.

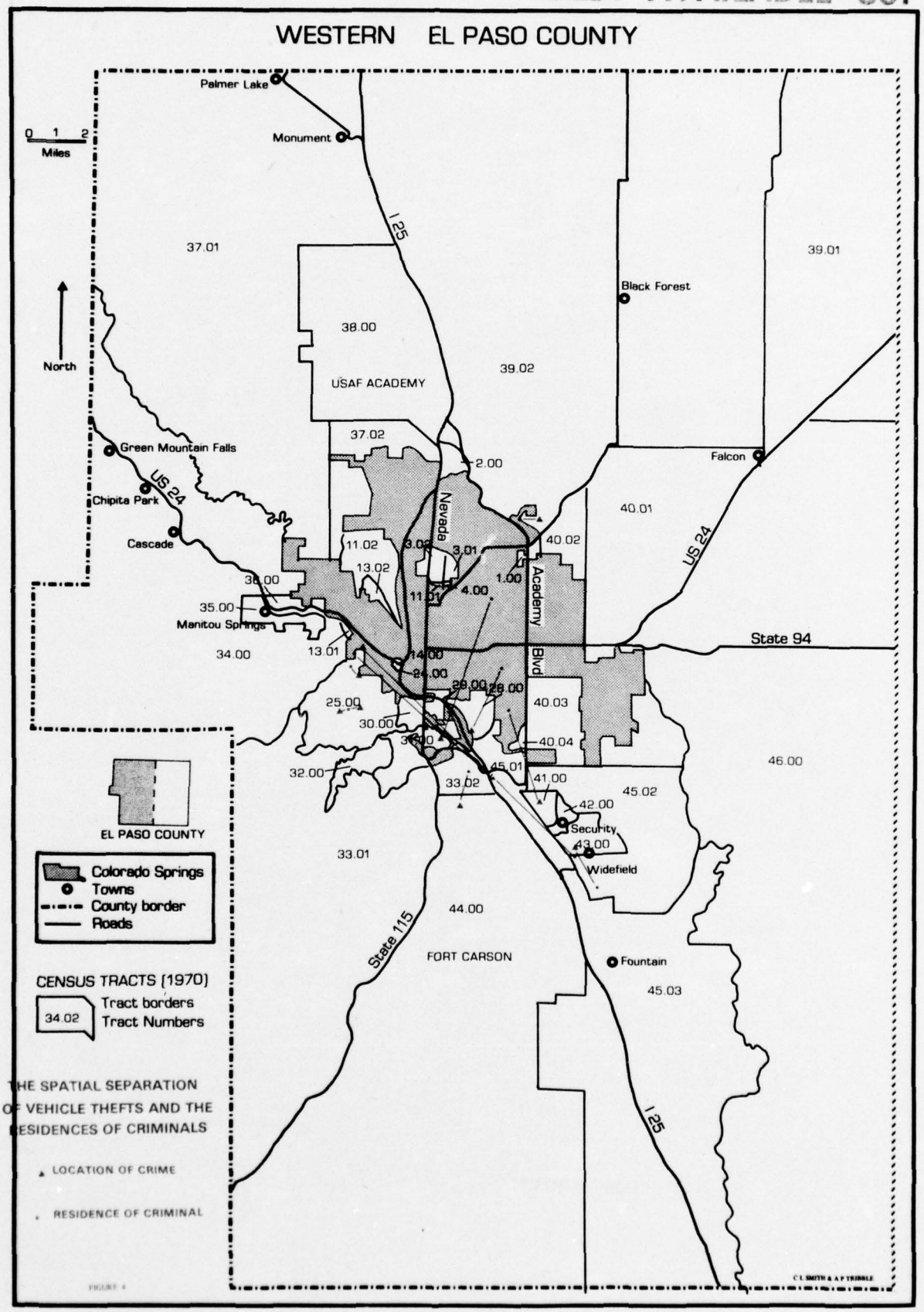
The distance separation of the location of the crime and the residence of the criminal varied considerably in different areas of the county, but averaged 1.97 miles. South of Colorado Springs the distance separation was quite large. In contrast, the separation was extremely small in the area east of the city.

Assaults were committed exclusively by civilians in the area east of the city, whereas Army personnel committed many south of the city. Of the thirty-seven cases plotted for the entire county, Army personnel committed fifteen. All had residences south of the city. The implication is that soldiers assaulted strangers, whereas civilians attacked neighbors or family members.

Vehicle Theft

Military personnel were generally not involved in vehicle thefts. Only seventeen percent of this type crime (Figure 4) was attributed to them. As with the other categories of crimes, the area south of the city fared worst. The average spatial separation of crimes and the residences of the criminals was 3.71 miles.





Burglary

Burglary was the most frequently committed crime. The plotting of 104 origin and destination cases again reflects the predominance of crime in the area south of Colorado Springs. Army personnel were less frequently involved in this crime than any other. Only fourteen of the 104 plotted burglaries were committed by Fort Carson soldiers (thirteen percent), and only eight of the soldiers resided on the military post (Figure 5). The distance between the location of the crime and the residence of the criminal was considerably greater south of the city than to the east. In the latter area, the criminal operated within his or her own neighborhood in nineteen out of twenty cases.

For the county as a whole, the average distance separation between places of the burglaries and the residences of the criminals was 1.71 miles.

Larceny

Army personnel constituted twenty-eight percent of the larceny offenders plotted. Those soldiers residing on-post committed their crimes primarily in the Security-Widefield area and in the area of south Nevada Avenue. Based on the origin and destination plottings of seventy-two crimes, there is more of a tendency for Colorado Springs residents to travel to the county to commit this crime than any other (Figure 6).

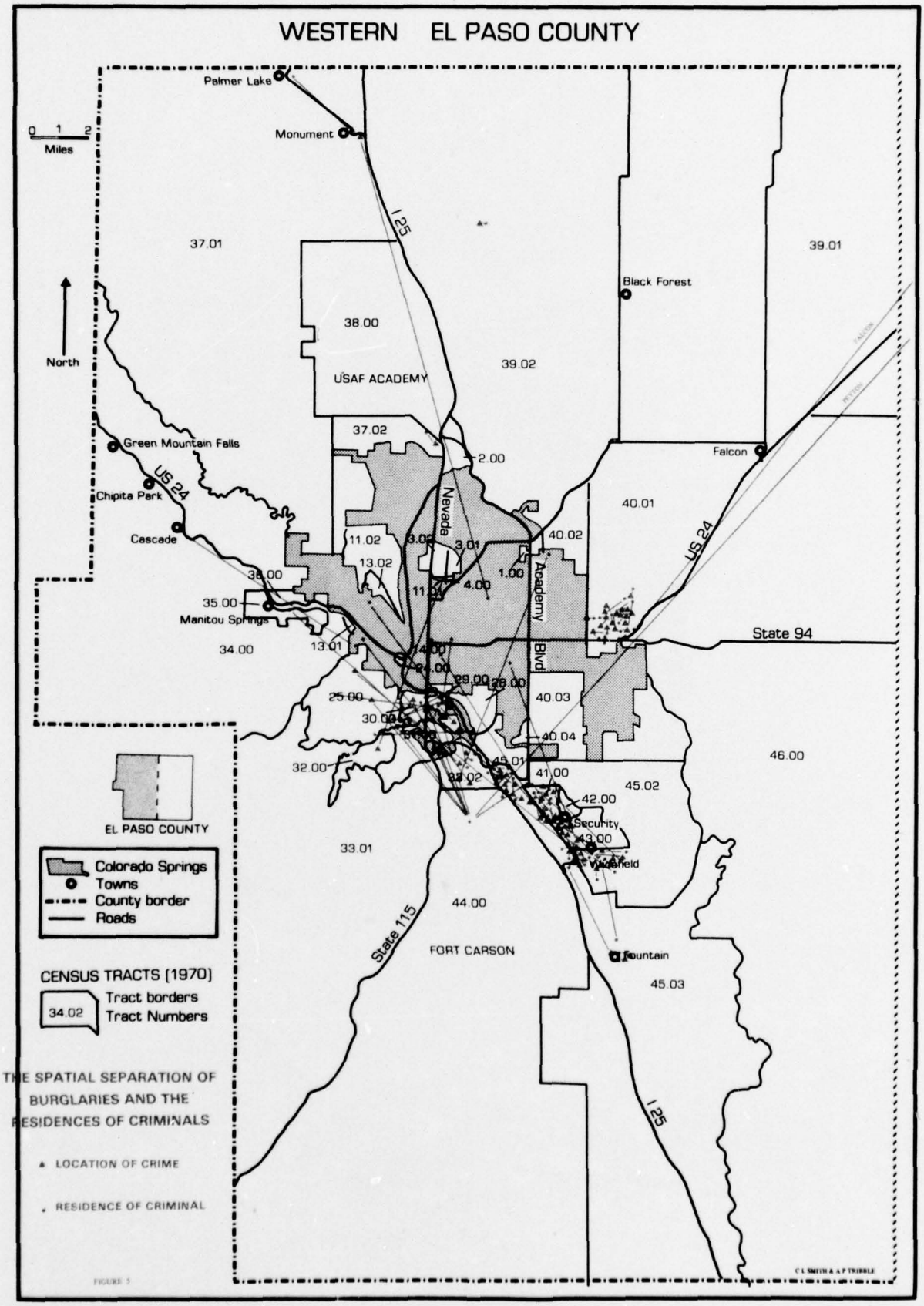
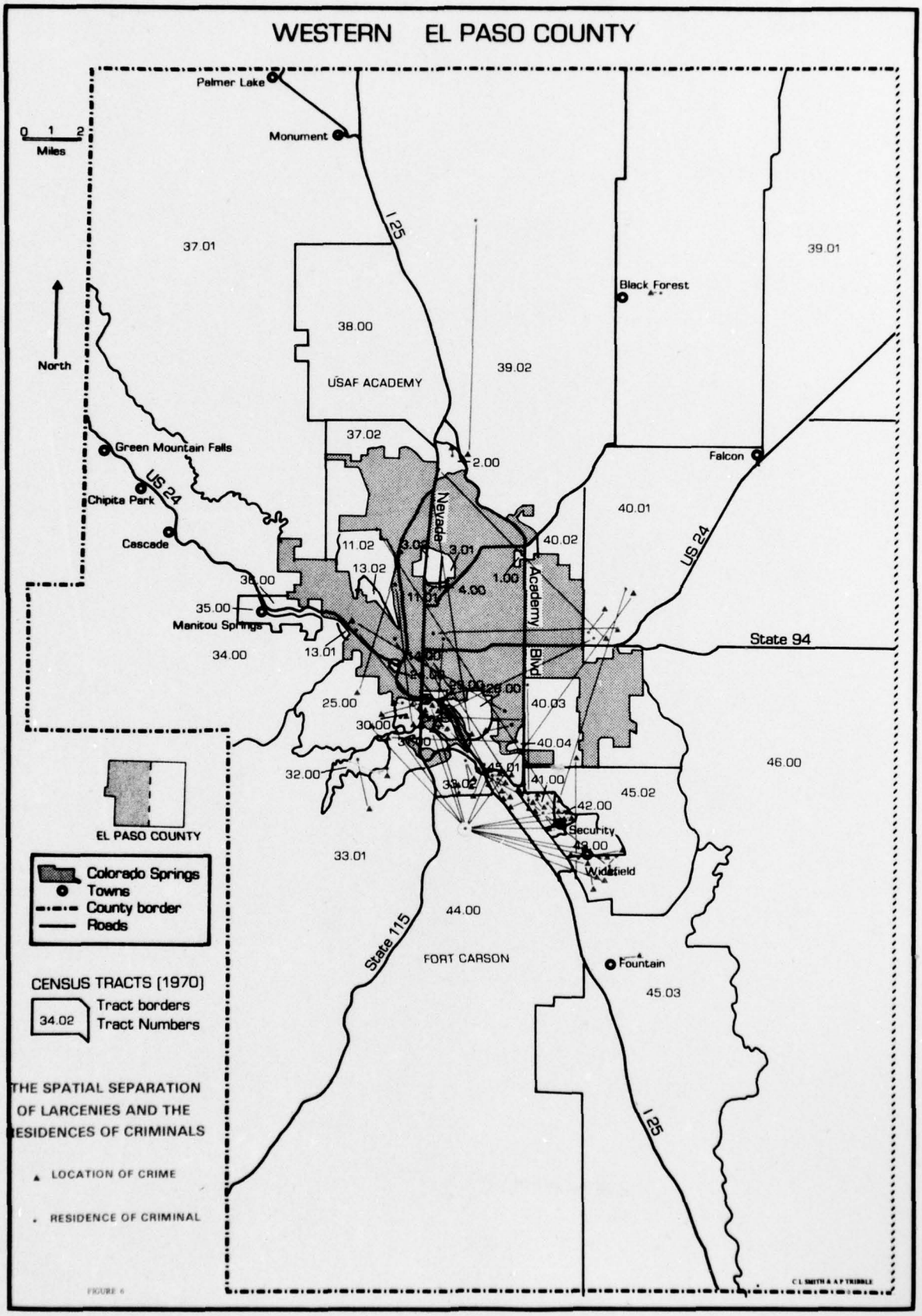


FIGURE 3



The average distance separation of the locations of the crimes and the residences of the criminals was 1.80 miles.

Sex Offenses

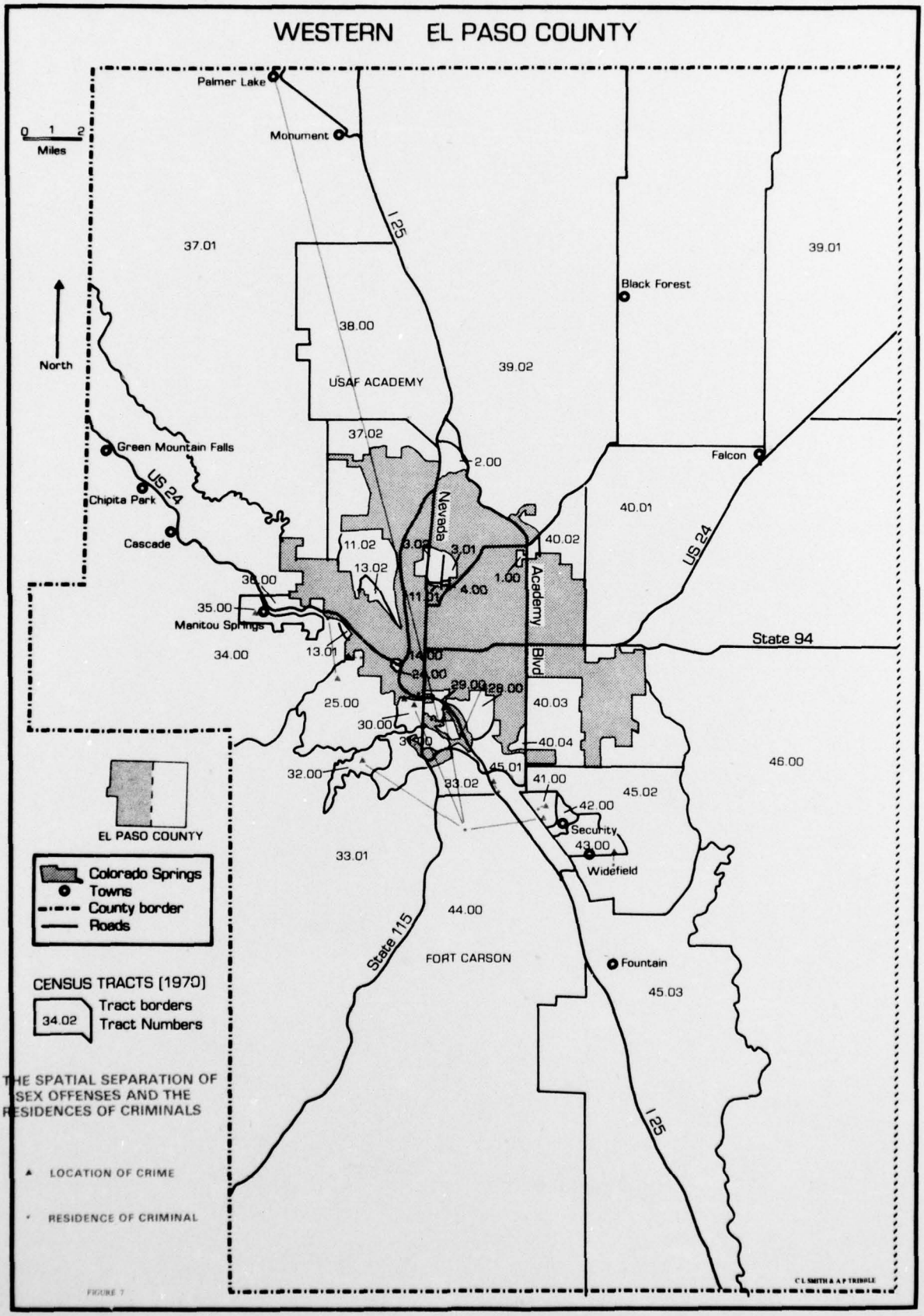
Fort Carson soldiers were more frequently involved in sex offenses than any other crime plotted. Of the fourteen crimes shown in Figure 7, six were committed by this group. Four of those six criminals resided on the military post.

This crime, as with all other crime groups, was concentrated in the area to the south of the city. The average distance separation between the locations of the crimes and the residences of the criminals for the offenses plotted was 3.78 miles.

Summary

All types of crimes predominated in the area south of Colorado Springs. Criminals who resided in that area tended to be more mobile in the commission of their crimes than those living to the east of the city. To some extent, this was traced to the civilian-military status of the population in the two areas. Civilians more commonly committed criminal acts in close proximity to their residences than did military personnel.

The average distance separation of residences of criminals and places of occurrence of crimes varied considerably between crime categories. The widest separation (6.15 miles) occurred with robberies, followed by sex offenses (3.78 miles) and vehicle



thefts (3.71 miles). There was an average distance separation of less than two miles for each of the other three crime groups.

Pyle, in his study of Akron, Ohio, in 1971, noted that assaults tended to occur in close proximity to the criminal's residence.[7] The data for El Paso County confirm that finding.

In contrast, burglaries showed the largest distance separation in Akron in 1971, while showing the shortest distance separation in El Paso County in 1975.[8] It was further noted by Pyle that in Atlanta in 1973, those arrested for robbery traveled only approximately one-fourth as far from their residence to commit the crime as those arrested for burglary.[9] Almost the exact reverse was true for El Paso County.

This variation possibly can be explained by the differences in population density in Akron and Atlanta, and El Paso County. Additionally, the findings may vary because of the different levels of aggregation of the data. In Pyle's study, the data on locations and crimes and residences of the criminals are aggregated only to the census tract level. In this study, exact locations (by street address) are plotted for both the origin and destination of the criminal.

---

[7] Pyle, The Spatial Dynamics of Crime, p. 151.

[8] Ibid., p. 166.

[9] Ibid., p. 144.

CHAPTER III

EXPLANATION OF CRIMES IN EL PASO COUNTY, COLORADO, 1975

Geographers and other social scientists have examined crime in metropolitan areas with the goal of suggesting the factors responsible for the occurrence of crime. They found that such variables as the size of the minority population, the percent of young males in the population, distance traveled to commit the crime, and others all influence the crime rate.[10]

Four classes of variables were examined in El Paso County (exclusive of the Colorado Springs corporate city) using a stepwise multiple regression model in an effort to determine the variables influencing the crime rate. The study area does not contain a major urban city, but is classified by the Census Bureau as a metropolitan statistical area. The variables can be grouped into four categories: social, economic, demographic, and spatial. Values for the first three were extracted from the 1970 Census of Population and Housing, Colorado Springs, while the fourth's values were obtained from 1975 maps. Although the values for each of the first three groups of variables changed absolutely from 1970 to 1975, the Pikes Peak Area

---

[10]For example, Sarah L. Boggs, "Urban Crime Patterns," American Sociological Review, Vol. 30, 1965, pp. 899-908; Keith D. Harries, "Social Indicators and Metropolitan Variations in Crime," Proceedings of the Association of American Geographers, Vol. 5, 1973, pp. 97-101; Yuk Lee and Frank J. Egan, "The Geography of Urban Crime: The Spatial Pattern of Serious Crime in the City of Denver," Proceedings of the Association of American Geographers, Vol. 4, 1972, pp. 59-64; Pyle, The Spatial Dynamics of Crime.

Council of Governments stated to the authors that the changes were statistically similar for each of the county's census tracts, and therefore, the 1970 data reflected accurate relative values for 1975.

The social variables used for each census tract were: percent of all persons sixteen to twenty-one years, not high school graduates and not enrolled in school; percent of all occupied housing units with 1.01 or more persons per room; percent of all housing units built from 1960 to 1970; percent of all housing units renter occupied; percent of all year-round dwellings with two or more units in the structure; and, number of occupied housing units per square mile (PSM).

The economic variables were: percent of all families below the poverty level; the median value of all occupied housing units; the mean income of all families and unrelated individuals; and, the percent of all occupied housing units with two or more automobiles available.

The demographic variables were: percent of minorities in the population; and, percent of young males (aged fourteen to twenty-four) in the population.

The distance variables were: distance from the main gate of Fort Carson Army Post to the nearest point of the census tract; distance from Academy Boulevard (the major North-South thoroughfare in eastern Colorado Springs) to the nearest point of the census tract; and, distance from the Central Business District (CBD) to the nearest point of the census tract.

Previous crime studies used the above variables with the exception of the distance measurement to a military base. The percent of various crimes committed by military personnel indicated that the variable of distance to Fort Carson would probably be influential in explaining crimes in El Paso County. The distance to Academy Boulevard variable was added after initial regression programs explained little of the crime rate variance, and a plotting of high crime rate tracts revealed the location of some to be in close proximity to Academy Boulevard.

Obviously, some autocorrelation exists between the variables, but it was reasoned that, for example, simply because a tract has a low mean income does not necessarily indicate it will have a low percent of dwelling units with two or more automobiles. Therefore, the data for each variable display somewhat different information.

Fort Carson (tract 44.00) was excluded from all regression procedures, as much of its crime reporting was handled internally and is not reflected in police records.

The initial program included all thirty-eight county census tracts in the model. The explained variance was sixty-one percent. The conclusions reached by the authors were that either the variables were not linearily related to the crime rate, or that the variables explaining crime in the various census tracts were

considerably different. In an effort to increase the explained variance and still retain the linear characteristics of the model, tracts of the county were divided into most and least urbanized portions. This was accomplished by determining the area of each of the tracts, and calculating each tract's housing density per square mile.

The explained variance increased to beyond ninety-nine percent when the model included only the seventeen tracts with the highest densities. These tracts were selected due to a natural break in housing densities. For an identification of those tracts, see Figure 8. The explained variance increased to beyond ninety-three percent when data for only the twenty-one low density tracts were used in the model. The variables responsible for explaining variance in the two models, however, differed considerably.

When examining only the high density areas, the distance to Fort Carson was the most important independent variable, with a multiple r of .43 (Table 4). There was a positive correlation of the same value between the crime rates and the distances to Fort Carson. The second most important independent variable in this model was the distance of the census tract from Academy Boulevard, increasing the multiple r to .84. The simple correlation, however, between the crime rate in various high density tracts and their distance to Academy Boulevard was a -.24, indicating that the farther a tract was from this thoroughfare the more likely it was to have a high crime rate.

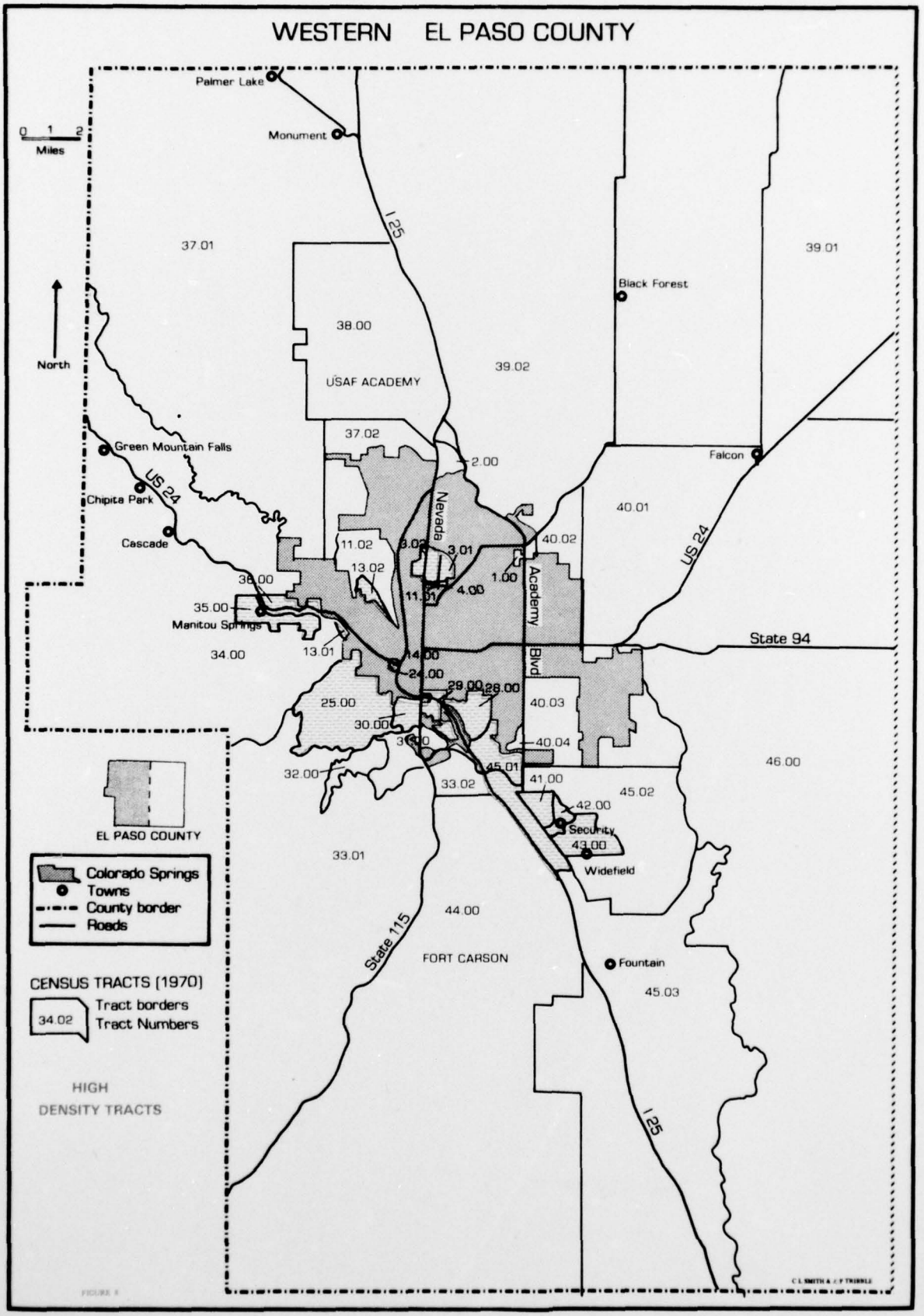


TABLE 4

EXPLANATION OF CRIME RATES IN DENSELY POPULATED

EL PASO COUNTY CENSUS TRACTS FOR 1975

Independent Variable	Correlation With Crime Rate	Multiple r	r squared
Distance to Fort Carson	+	.43394	.18830
Distance to Academy Boulevard	-	.83987	.70538
Dwelling Crowding Factor	+	.86161	.74238
Percent - Minorities	-	.88653	.78594
Dwelling Units PSM	+	.89492	.80089
Distance to CBD	-	.90012	.81022
Percent - Two or More Cars	-	.90491	.81886
Mean Income	-	.91882	.84422
Percent - Families Below Poverty Level	-	.94135	.88615
Percent - Not in School and Not H.S. Grads	+	.94502	.89306
Percent - Young Men	+	.95955	.92074
Percent - Renter Occupied	-	.97221	.94519
Percent - Dwellings Built 1960-1970	+	.98637	.97292
Percent - Dwellings w/Two or More Units	-	.99742	.99484
Median Value of Dwellings	-	.99962	.99925

The multiple r increased slowly with the addition of other independent variables. Nine of the variables were negatively correlated with the various tract's crime rates.

When examining the low density areas, the distance to the CBD emerged as the most important independent variable, with a multiple r value of .79 (Table 5). The percent of a tract's population sixteen to twenty-one years, not high school graduates and not enrolled in school proved to be the second most important independent variable, with a multiple r value of .87. This variable was negatively related to the crime rate, however, indicating that the fewer non-graduates who were not in school and should have been, the higher the crime rate was likely to be. The other twelve independent variables included in the equation each explained only a small percent of the variance.

Summary

The distance to Fort Carson emerged as the most important variable responsible for explaining crimes in the densely populated county census tracts. However, distance ranked only eighth in importance in explaining crimes in the sparsely populated areas. The implication is that Fort Carson personnel were responsible for a large percent of all the county's crimes (twenty-four percent, as explained in the second chapter), but that they committed these crimes to a large extent, in densely populated areas.

TABLE 5

EXPLANATION OF CRIME RATES IN SPARSELY POPULATED

EL PASO COUNTY CENSUS TRACTS FOR 1975

Independent Variable	Correlation With Crime Rate	Multiple r	r squared
Distance to CBD	+	.78909	.62266
Percent - Not in School and Not H.S. Grad	-	.86877	.75477
Distance to Academy Boulevard	+	.90630	.82138
Percent - Families Below Poverty Level	+	.92601	.85749
Percent - Minorities	-	.94169	.88677
Percent - Dwellings w/Two or More Units	-	.94520	.89340
Percent - Young Men	+	.95077	.90397
Distance to Fort Carson	+	.95266	.90756
Percent - Dwellings Built 1960-1970	-	.95719	.91621
Percent - Renter Occupied	+	.95932	.92029
Median Value of Dwellings	-	.96325	.92786
Dwelling Crowding Factor	+	.96653	.93419
Mean Income	-	.96758	.93621
Percent - Two or More Cars	-	.96798	.93699

The variables responsible for explaining crimes differed depending upon whether a census tract was densely or sparsely populated. Some variables were negatively and others positively related to crimes in both densely and sparsely populated areas (Table 6).

The influence on crime rates of tract location in relation to the CBD in sparsely populated tracts is impressive. The regression analysis additionally identified other than distance variables responsible for explaining the crime rates. Many of these are associated with the root causes of crime.

Some variables identified in the study as being positively or negatively related to crime rates warrant more in-depth investigation prior to being labeled causal factors in crime. For example, the crowding factor (within dwellings) was positively correlated with crimes in all county areas, as expected, however, as the percent of dwellings with two or more housing units increased, the crime rate suprisingly decreased.

Peet notes that too many crime studies dwell on solutions to manage crime and spend little time attempting to alleviate the causes of crime.[11] This study has identified several variables possibly related to criminal causes. Further research should substantiate such relationships. By implementing solutions to eradicate root causes of crime, the course of action of local governments could shift from amelioristic pragmatism to farsighted planning.

---

[11]Richard Peet, "The Geography of Crime: A Political Critique," The Professional Geographer, Vol. 27, No. 3, August 1975, pp. 277-280.

TABLE 6

RELATIONSHIP OF VARIOUS INDEPENDENT VARIABLES TO CRIMES IN DENSELY AND SPARSELY POPULATED AREAS OF EL PASO COUNTY IN 1975

Independent Variable	Correlation With Crime Densely Populated Tracts	Rate In: Sparsely Populated Tracts
Social Variables		
Percent - Not in School and Not H.S. Grad	+	-
Dwelling Crowding Factor	+	+
Percent - Dwellings Built 1960-1970	+	-
Percent - Renter Occupied	-	+
Percent - Dwelling w/Two or More Units	-	-
Dwelling Units PSM	+	Not Sig. for Inclusion
Economic Variables		
Percent - Families Below Poverty Level	-	+
Median Value of Dwellings	-	-
Mean Income	-	-
Percent - Two or More Cars	-	-
Demographic Variables		
Percent - Minorities	-	-
Percent - Young Men	+	+
Distance Variables		
Distance to Fort Carson	+	+
Distance to Academy Boulevard	-	+
Distance to CBD	-	+

BIBLIOGRAPHY

Boggs, Sarah L. "Urban Crime Patterns." American Sociological Review 30 (1965): 899-908.

Harries, Keith D. "Social Indicators and Metropolitan Variations In Crime." Proceedings of the Association of American Geographers 5 (1973): 97-101.

Lee, Yuk, and Egan, Frank J. "The Geography of Urban Crime: The Spatial Pattern of Serious Crime in the City of Denver." Proceedings of the Association of American Geographers 4 (1972): 59-64.

Lee, Yuk; Leung, Yee; and Lyles, Lionel. "Two Conceptual Approaches and an Empirical Analysis of the Origin Node of Violent Crimes." Proceedings of the Association of American Geographers 6 (1974): 157-161.

Peet, Richard. "The Geography of Crime: A Political Critique." The Professional Geographer 27 (August 1975): 277-280.

Phillips, Phillip. D. "Risk-Related Crime Rates and Crime Patterns." Proceedings of the Association of American Geographers 5 (1973): 221-224.

Pyle, Gerald F., et al. The Spatial Dynamics of Crime. Chicago: The University of Chicago, Department of Geography, Research Paper No. 159, 1974.

U.S. Department of Commerce. Census of Population and Housing, Colorado Springs, Census Tracts, 1970. Washington, D.C.: Government Printing Office, 1972.